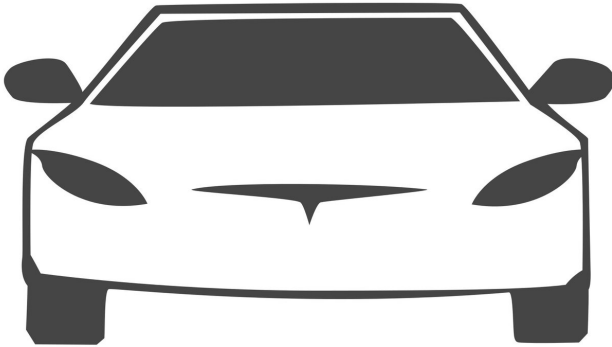


# Patent talk: Exploring self-driving car with device as steering wheel

10 October 2018, by Nancy Owano



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Ford received a patent from the United States Patent and Trademark Office (USPTO). The patent is called "Non-Autonomous Steering Modes," and is described as a car capable of receiving a request to steer, and react accordingly.

The easily shaken may step back and think, what, [steering](#) for autonomous cars in this fashion? Are they nuts? Are we looking at car-crash statistics off the charts?

Hold up before grabbing the net. *CarBuzz* provided details.

According to documents recently published by the US Patent and Trademark Office, Ford has a [patent](#) for 'Non-Autonomous Steering Modes' by which users of autonomous cars would be steering their cars via [smartphone](#).

"The system would receive wireless inputs from the user device and apply them to the vehicle's front wheels," said Accardi. "It all starts with the user request to steer the vehicle. From there, the computer determines the steering angle of the host

vehicle and asks the user to choose between two available steering modes."

*Autoevolution* summed up the two ways of the Modes idea, saying "there's the tilt of one's smartphone or similar device, not unlike the tilting done when playing the various racing games out there [*Autoblog* referred to the proposed capability as "smartphone tilt-steering"]. Then, there's a virtual steering [wheel](#), which appears in an app of sorts on the mobile device and allows the user to control the direction of travel by moving his finger over the screen."

Jonathon Ramsey walked *Autoblog* readers through Modes—note Mode in the plural. That is because the patent concept involves two things that can happen.

"The 'First Autonomous Steering Mode' performs a handshake between the car and the mobile device to sync the device's position with the front wheels pointed straight ahead. After that's done, the vehicle uses the device's gyroscope and accelerometer to determine how to move the front [wheels](#)—the same as in a mobile racing game. The 'Second Autonomous Steering Mode' places a virtual steering wheel on the mobile device, and the vehicle syncs the position of that virtual wheel with the front wheels. The driver can steer the car by using a finger to turn the wheel on the touchscreen."

The patent lists Ford Global Technologies as the applicant and filing was in February last year. The date of patent is September 25. The inventor is listed as Steven El Aile.

Actually, it would be just as silly to see Ford as a motor company that is deaf to safety risks as it would to think their patent idea was reckless.

"Many automakers are waiting for National Highway Traffic Safety Administration (NHTSA) to allow new

vehicles without the steering wheels and pedals to run on the road," said *Patent Yogi*.

"But, according to Ford, 'an inability to manually steer the vehicle can result in placing test drivers at higher risk, as it would be more difficult to moderate or abort such maneuvers made under autonomous control or make such [maneuvers](#) with an unfamiliar electronic control such as a joystick. Further, some vehicle owners may prefer the familiarity of being in a vehicle having a steering wheel, or a steering wheel may be needed to allow a [vehicle](#) occupant to assume control, even if the steering wheel is inactive in an autonomous mode.' Therefore, Ford has come up with a novel concept – by providing the steering wheel and pedals as removable attachments."

System components? The steering wheel may be a drive-by-wire system; removable pedals may be connected by "threaded fasteners and spring-loaded snap engagement features." *Patent Yogi* added that "Drivers may also get the familiar feel of a car with a [steering wheel](#) if they so desire."

Accardi made note that Ford said the document's intent was to be illustrative only, and it anticipates the ideas as discussed in the patent would continue evolving, just as "the company continues to gain knowledge in this [space](#)."

While there is no indication the patent will turn into real-world feature, *Autoevolution* took this perspective: "Ford wants the basis covered in case such [technology](#) becomes a reality. It doesn't mean it actually will."

**More information:** [US Patent](#)

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